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EXAMINER	
LOW, LINDSAY M	
ART UNIT	PAPER NUMBER
3721	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,021	KENNETT, DAVID	
	Examiner	Art Unit	
	LINDSAY M. LOW	3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *45-85* is/are pending in the application.

4a) Of the above claim(s) *76-83* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *45-75,84 and 85* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's RCE received on July 22nd, 2009.

Election/Restrictions

2. Newly submitted claims 76-77 and 81 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have different modes of operation. For example, claims 45-75 are directed to an invention where the ram is accelerated by the reaction member to increase the kinetic energy, while claims 76-77 are directed to an invention where the ram relies on the stator and/or gravity to increase the kinetic energy. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

3. Newly submitted claims 78-80 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus such as a drill or rotary impact device.

4. Newly submitted claims 82 and 83 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have different modes of operation. For example, claims 45-75 are directed to an invention that drives piles, while claims 82 and 83 are directed to an invention that extracts piles.

5. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 76-83 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 49 recites the limitation "said impact head." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 45-51, 55-65, 71, and 84-85 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacquemet (4,799,557).

Jacquemet discloses the same invention including a chassis 6, a ram 1, and a linear induction motor (LIM) 2 having a stator that interacts with an LIM reaction member (the magnetic core of ram 1). The ram reciprocates between a retracted position and an impact position. Note that the ram is accelerated by the reaction member (magnetic core) from the retracted position to the impact position due to the acceleration of gravity.

Regarding claims 46 and 49, the bottom portion of the ram 1 is an impact head that is made of a robust and solid material and transfers an impact from the ram to an elongate member.

Regarding claims 47 and 48, the ram is a support structure having first and second ends. The impact head (end of ram proximate to the elongate member) is at the first end. The reaction member (magnetic core of ram 1) is of an elongate configuration and is secured to the ram as it is part of the ram.

Regarding claim 50, the outer surface of the ram is considered to be a plate of conductive metal material.

Regarding claim 51, the ram moves rectilinearly relative to the chassis.

Regarding claim 55, the chassis is a casing defining an elongate chamber (see Fig. 2) and the ram is moveable within the chamber.

Regarding claims 56-58, electronic sensors 11 and 26 measure the position of the ram with respect to the chassis via a controller, as shown in Figs. 4-6. Sensor 26 is a limit sensor and detects when the ram reaches the retracted position (see col. 6 lines 29-30).

Regarding claims 60-62, an anvil assembly holds an anvil 7 and is positioned between the head of elongate object 8 and the impact head. The anvil assembly is translatably engagable with the chassis. Note that the portion 7b of the anvil 7 is remote from the chassis.

Regarding claims 63-65, the chassis 6 is mounted to a support structure 28, 30 (see col. 7 lines 4-8).

Regarding claim 71, Jacquemet's device is a pile driver (see abstract).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 72-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacquemet (4,799,557).

Jacquemet discloses the same invention substantially as claimed but is silent about the overall operational height of the impact driver being less than 3m, 2.5m, 2m, and 1.5m. However, these features are admitted prior art since Applicant has not adequately traversed the obviousness of such features, i.e. Applicant has not pointed out the specific reason why they are not obvious. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form Jacquemet's pile driver at a sufficient height so as to facilitate use of the device.

12. Claims 45-65, 71, and 84-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (4,844,661) in view of Rice (4,390, 307).

Martin discloses the same invention including a chassis 1, a ram 3, and electromagnetic means 2 to allow the ram 3 to oscillate between a retracted position and an impact position. The ram is accelerated by the interaction between electromagnet 2 and a reaction member 3d from the retracted position to the impact position at a rate that is greater than from the impact position to the retracted position and greater than the acceleration of gravity (see abstract).

Regarding claim 46 and 49, the bottom portion of the ram 1 is an impact head that is made of a robust and solid material and transfers an impact from the ram to an elongate member.

Regarding claims 47 and 48, the ram is a support structure having first and second ends. The impact head 3a is at the first end. The reaction member 3d is of an elongate configuration and is secured to the ram.

Regarding claim 50, the reaction member 3d is a plate of conductive material.

Regarding claim 51, the ram 3 bears with the chassis 1 to allow movement of the ram relative to the chassis.

Regarding claims 52-54, the chassis has bearings 1a1, 1b1, and 1c1 to locate and support the ram for linear movement within. The bearings are located within a casing of the chassis (see Fig. 3) and retain the ram.

Regarding claims 56-58, electronic sensors allow positioning of the ram to be detected via a controller (see Fig. 12 and col. 6 lines 3-53). Sensor 34 is a limit sensor detecting the ram in its retracted position.

Regarding claims 60-61 and 63-65, an anvil assembly holds an anvil 4 and is positioned between the head of elongate object 6 and the impact head 3a. The anvil assembly is translatably engagable with the chassis and its support structure 1d-1g.

Regarding claim 71, note that Martin's device is capable of being a pile driver (see col. 1 lines 10-15).

Martin fails to disclose a linear induction motor for accelerating the ram. However, Rice teaches a pile driving device that uses a linear induction motor (LIM) with a stator 34 to drive piles for the purpose of controlling the rate of penetration of the pile (col. 1 lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Martin's device with a linear

induction motor as taught by Rice for the purpose of controlling the acceleration rate of the ram as a pile is driven.

Regarding claims 72-75, the modified device of Martin discloses the same invention substantially as claimed but is silent about the overall operational height of the impact driver being less than 3m, 2.5m, 2m, and 1.5m. However, these features are admitted prior art since Applicant has not adequately traversed the obviousness of such features, i.e. Applicant has not pointed out the specific reason why they are not obvious. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form Martin's modified pile driver at a sufficient height so as to facilitate use of the device.

13. Claims 66-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacquemet (4,799,557) in view of Deike (4,124,081)

Jacquemet discloses the same invention substantially as claimed but is silent about the device being mounted onto a vehicle. However, Deike teaches a post driving machine that is mounted into a vehicle for the purpose of facilitating portability of the device and for providing stability and support as the device is in operation. The post driver can rotate (col. 4 lines 54-59) and translate (Fig. 1) relative to the vehicle for the purpose of facilitating operation of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to rotatably and translatably mount Jacquemet's device on a vehicle for the purpose of facilitating portability and operation and providing stability and support.

14. Claims 66-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (4,844,661) in view of Rice (4,390, 307) as applied to claims 45-65, 71, and 84-85 above, and further in view of Deike (4,124,081).

Martin's modified device discloses the same invention substantially as claimed but is silent about the device being mounted onto a vehicle. However, Deike teaches a post driving machine that is mounted into a vehicle for the purpose of facilitating portability of the device and for providing stability and support as the device is in operation. The post driver can rotate (col. 4 lines 54-59) and translate (Fig. 1) relative to the vehicle for the purpose of facilitating operation of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to rotatably and translatably mount Martin's modified device on a vehicle for the purpose of facilitating portability and operation and providing stability and support.

Response to Arguments

15. Applicant's arguments filed July 22nd, 2009 have been fully considered but they are not persuasive.

Applicant contends that Jacquement's apparatus does not have a linear induction motor because it does not include a moving magnetic field. However, as discussed in the final rejection mailed April 28th, 2009, examiner asserts that Jacquemet's electromagnet 2 is deemed to be a linear induction motor because it uses coil induction to generate a magnetic force to accelerate the ram 1 linearly. It is acknowledged that

Jacquemet doesn't use several coils stacked together to provide a continued linear motion. However, a limited amount of linear motion is provided through coil induction.

Applicant contends that there is no increase of kinetic energy of the ram in Jacquement's device. However, it should be noted that with an increase of velocity due to acceleration of gravity, an increase of kinetic energy is inherent since the larger the velocity of an object, the larger its kinetic energy. Therefore, Jacquement's ram is deemed to have an increase of kinetic energy as it is accelerating towards the pile to be driven.

Applicant contends that Rice does not disclose the use of increased kinetic energy of the ram or pile. However, it should be noted that Rice is relied upon to show the use of an LIM to accelerate an elongate object. It is acknowledged that Rice operates differently than Martin or the present invention. However, Rice, Martin, and the present invention utilize a driver involving a magnetic force to drive an elongate object. Therefore, it would be within the abilities of one having ordinary skill in the art at the time of the invention to provide an LIM such as the one taught by Rice to Martin's device for the purpose of controlling the acceleration rate of the ram.

Applicant contends that Martin, while showing an increase in kinetic energy initially, does not increase the energy throughout the downstroke of the ram. However, similarly with Jacquement, due to the acceleration of gravity, it is inherent that the kinetic energy is increasing since the velocity is increasing.

Applicant contends that Deike is silent on the use of high velocity to increase kinetic energy. However, it should be noted that Deike is relied upon to show the use of

mounting a pile driving device on a vehicle. It is acknowledged that Deike operates differently than Jacquement, Rice, or Martin, however all these devices drive elongate objects into a body. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to mount the pile-driving support structure on a vehicle, such as that taught by Deike, for the purpose of facilitating portability and operation and providing stability and support.

For the reasons above, the grounds of rejection are deemed proper.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDSAY M. LOW whose telephone number is (571)272-1196. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on 571-272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. M. L./
Examiner, Art Unit 3721

/Rinaldi I Rada/
Supervisory Patent Examiner, Art Unit 3721

9/24/2009